THE LIVESTOCK SURVEY: Preliminary results on precision livestock farming

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The livestock sector in EU:

- Represent 40% of total agricultural activity;
- Employ around 4 million people, with an average of 1 to 2 workers per farm;
- Proteins of animal origin cover more than 50% of the total protein content of a daily diets;
- According to EU estimates, a person consume 69.5 kilograms of meat and 236 liters of milk a year.

The livestock sector has a huge environmental, economic and social impact in terms of sustainability

Sustainable Development Goals

Technology and digital innovation is
increasingly at the core
of the debate on how to achieve the SDGs (17 goals).
While the
possible contribution of digital technologies to the
SDGs has initially been limited to the discussion of
Goal 9 (industry, innovation, and infrastructure),
there is now a well-established understanding that
digital technology can help drive progress for
all goals

SDGs Goal 2 - CAP

- SDGs – ZERO HUNGER goal 2 double productivity to guarantee a daily access to healty food, sustainable
- The Farm to Fork Strategy is at the heart of the European Green Deal aiming to make food systems fair, healthy and environmentally friendly.

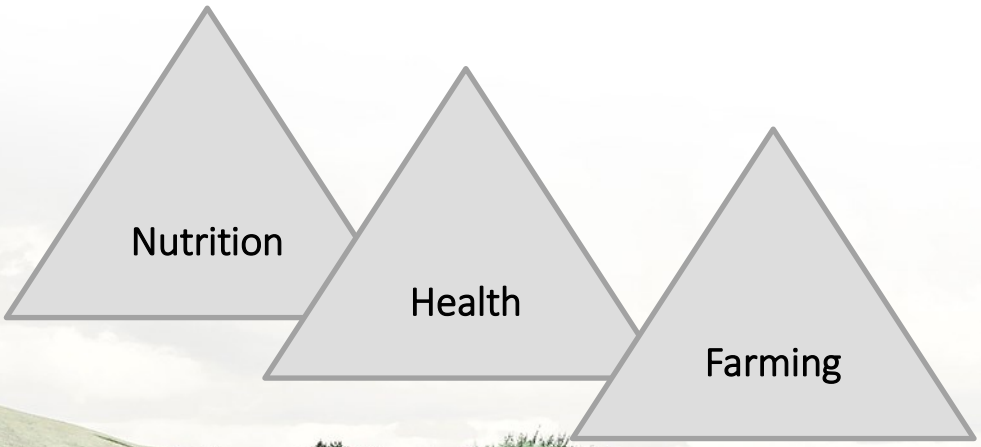
The Common Agricultural Policy (CAP) will play a key role in achieving the SDGs goals the objectives of the 'Farm to Fork' strategy

to make the EU's agriculture sustainable

Precision livestock farming

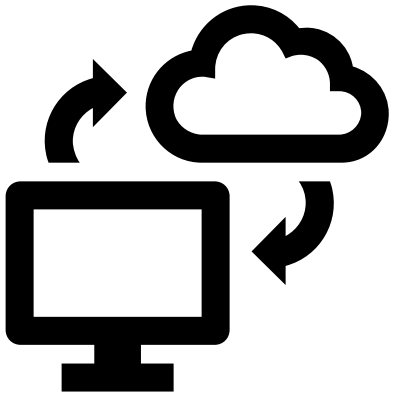
PLF, or so-called ‘Precision Livestock Farming’, adds advanced technologies and software to the farming process, with the goal of optimizing the productivity per animal.

This connects the main areas of focus:



HOW CONNECT TECHNOLOGIES AND SUSTAINABLE LIVESTOCK?

“The livestock sectors is starting to take advantage to the adoption of a host of new technologies in terms of sustainable production”



THERE ARE THREE IMPORTANT REQUIREMENTS

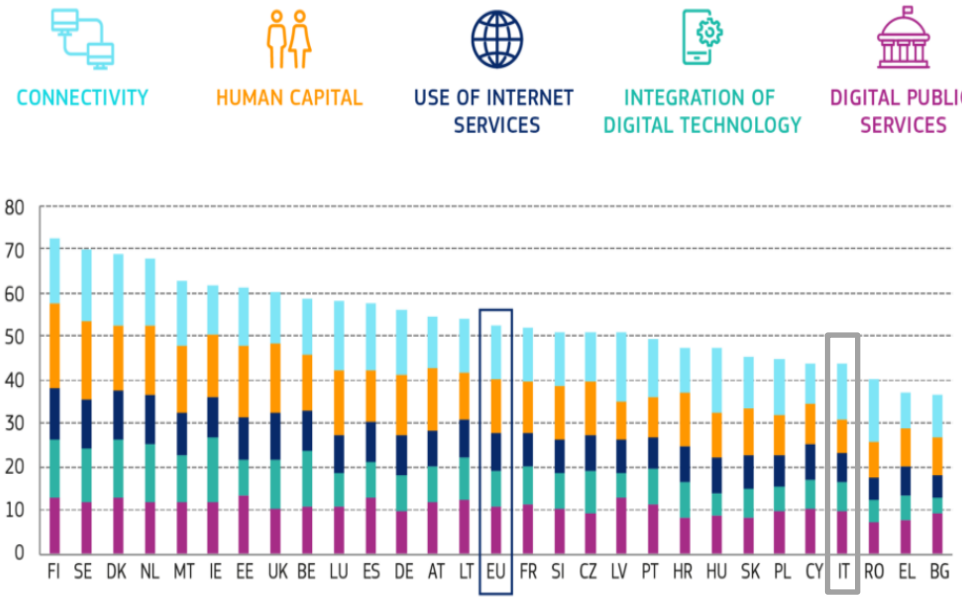
TO MAKE USE OF DIGITAL LIVESTOCK:

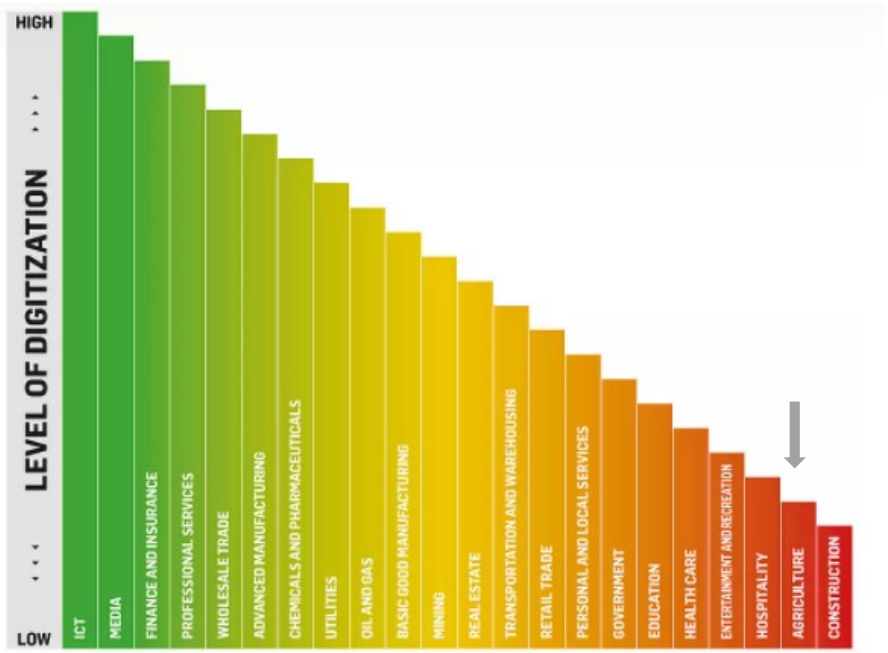
1. access to the internet and electronic devices;

2. skills to use digital technology;

3. A culture that encourages digital livestock farming activities as a business.

Digital Economic Society Index (DESI) 2020





Source: BCMN

Figure 1. The agriculture sector's low rate of digital tech usage compared to other sectors

THE LIVESTOCK SURVEY:
Preliminary results on precision livestock farming

THE LIVESTOCK SURVEY:
Preliminary results on precision livestock farming*

This work was part of the Istat Livestock survey that is conducted twice a year, in 1°December and 1° June. The survey complies with the EU Regulation 1165/2008.

Field of observation= Farms who has cattle and pigs, (sheep, goats requested only in December edition)

The technique used is CAWI-CATI

(due to Sars Cov-19 in June we have used only the CATI Tecnique and postponed the survey dates)

The survey has been revised adding a question, related to the use of precision farming tools, in the June 2020 edition

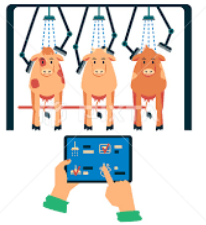
This will allow to define a new set of indicators related to the livestock (but also agriculture) domain that will be able to help government policies

*The results are not still officially disseminated

THE LIVESTOCK SURVEY:
Preliminary results on precision livestock farming*

What system or robot did you introduct in your farm activity?

1. IT systems for herd management
2. Equipments for on-line analysis of food quality
3. Milking robots
4. Milking salons equipped with on-line milk quality measurement systems
5. Remote management systems for animal identification
6. Sensors for detecting the productive and reproductive activity of the herd
7. Robot systems for managing the ration and cleaning the stable
8. Other (specify)



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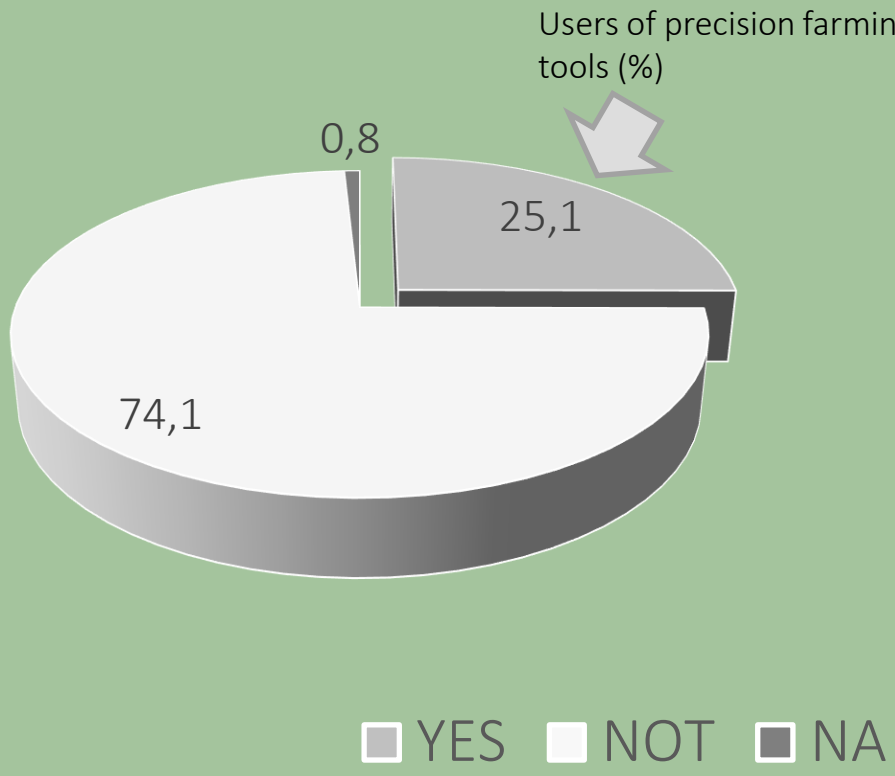
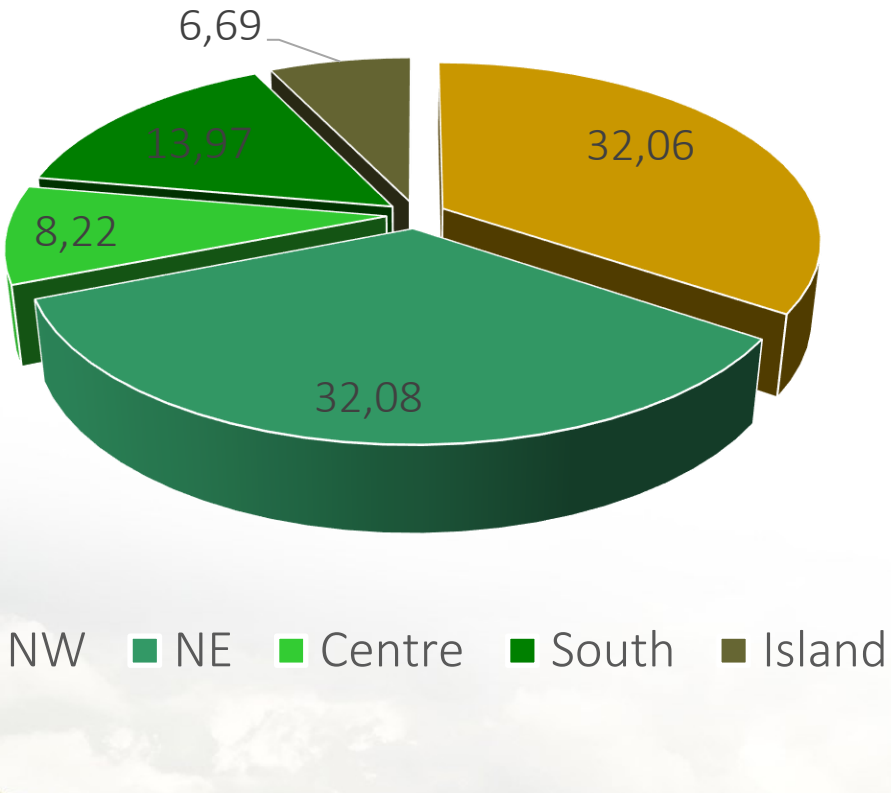
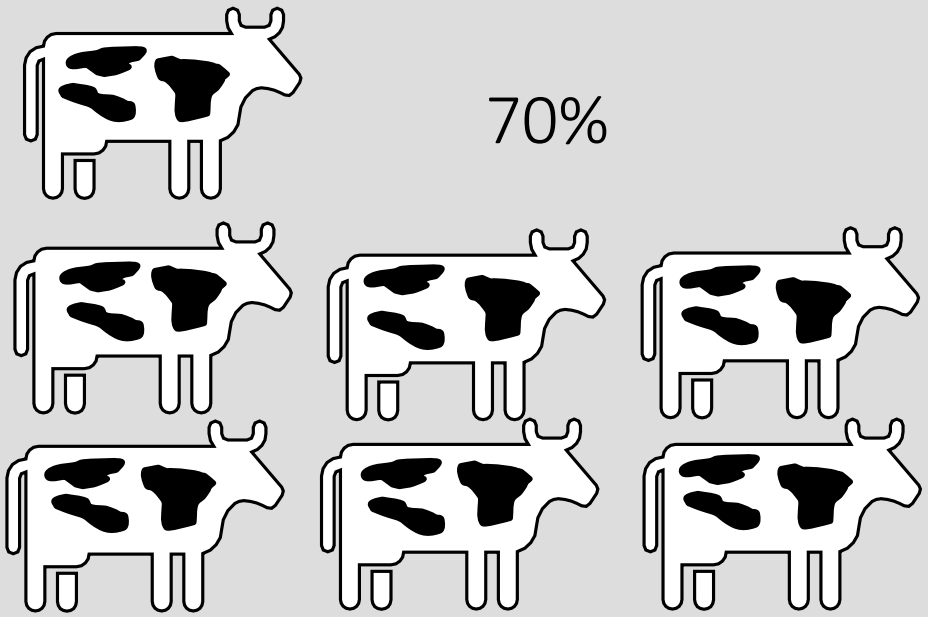
ITALY



Users of precision farming tools (NUTS2)

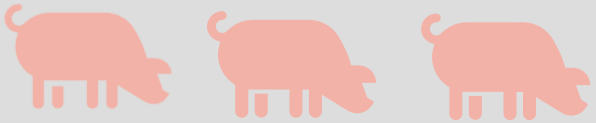


Users of precision livestock tools by species (%)



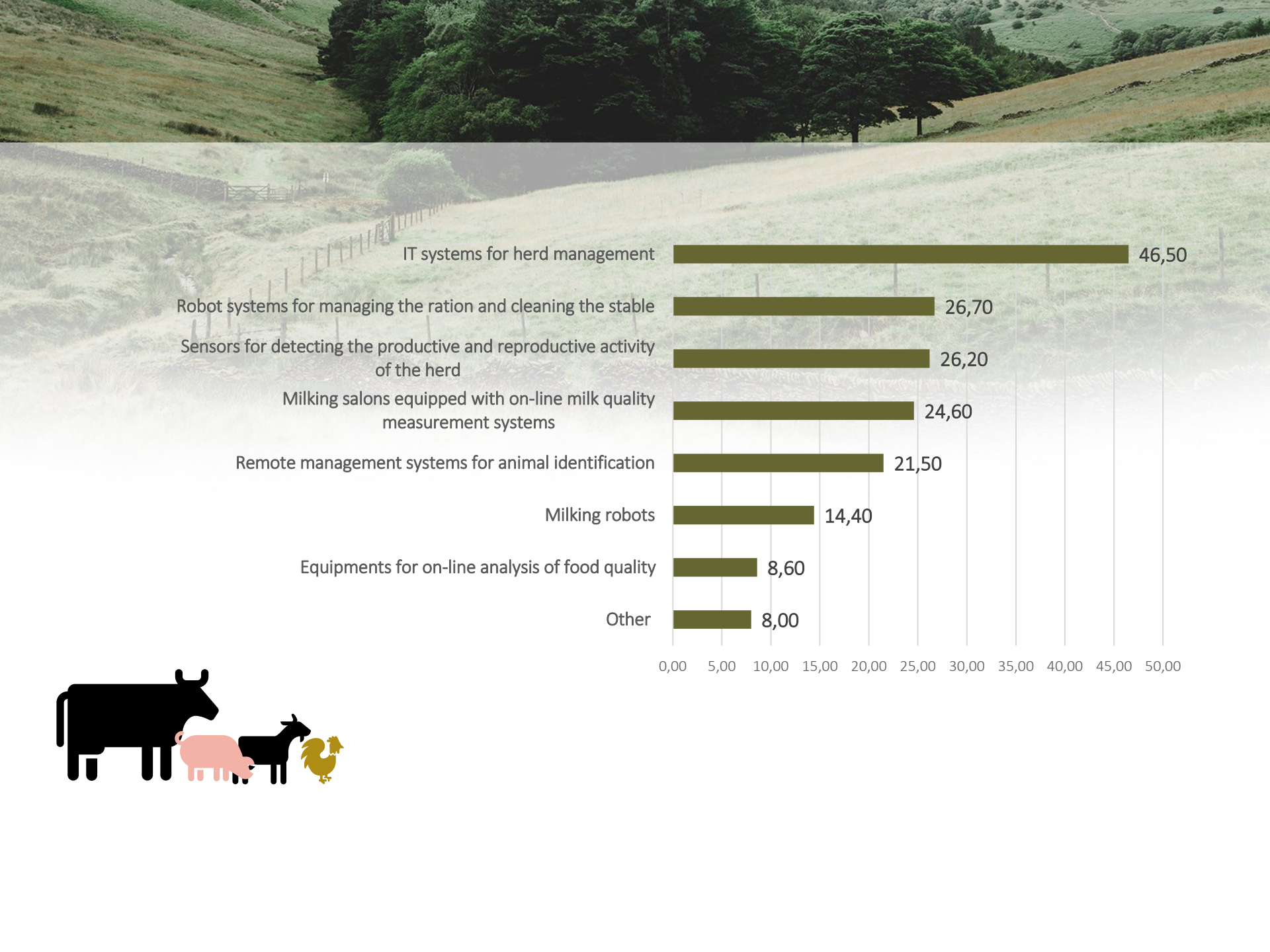
70%

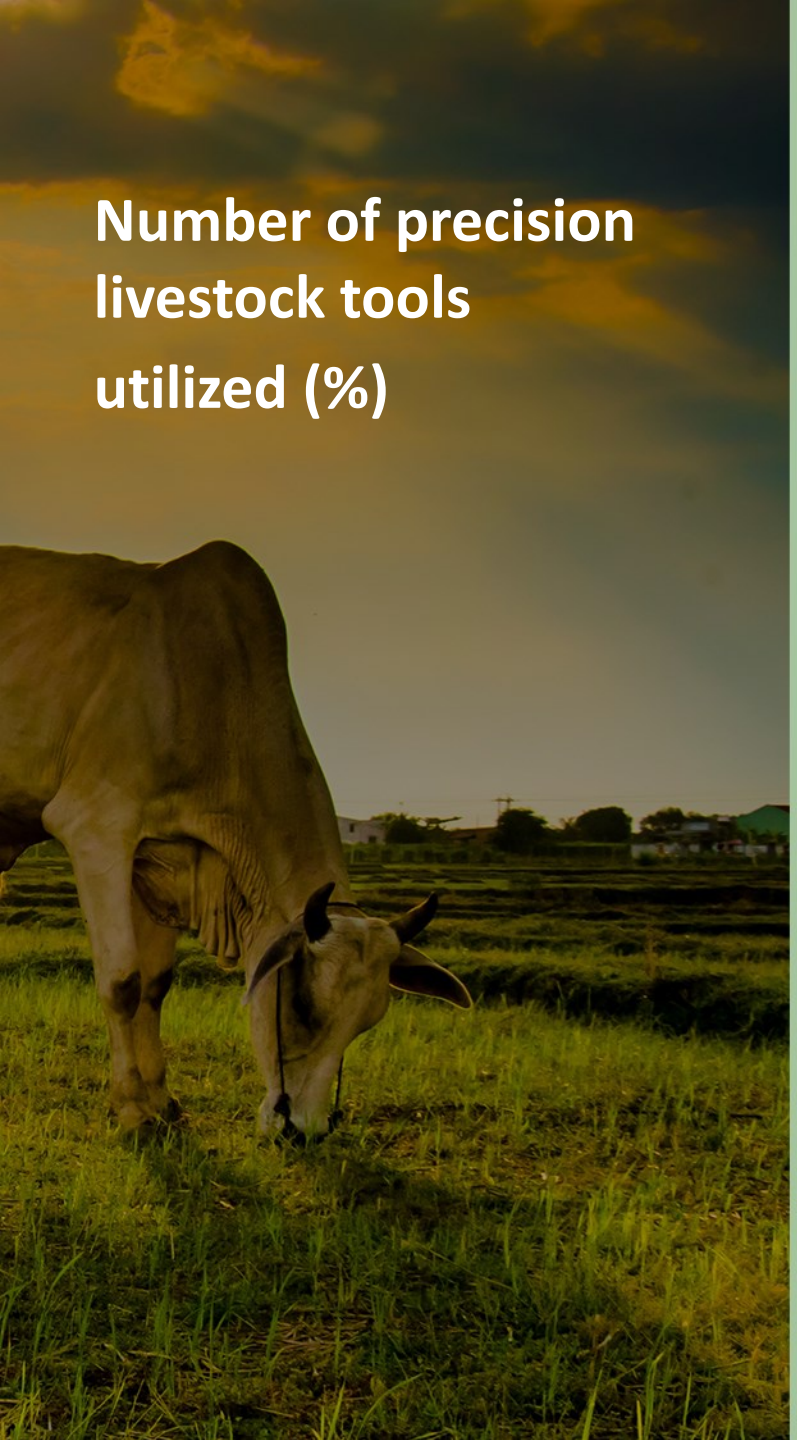
30%



Bovine, bufaline

Pigs


IT systems for herd management
46,50
Robot systems for managing the ration and cleaning the stable
26,70
Sensors for detecting the productive and reproductive activity of the herd
26,20
Milking salons equipped with on-line milk quality measurement systems
24,60
Remote management systems for animal identification
21,50
Milking robots
14,40
Equipments for on-line analysis of food quality
8,60
Other
8,00
0,00
5,00
10,00
15,00
20,00
25,00
30,00
35,00
40,00
45,00
50,00



Number of precision livestock tools utilized (%)

1156 FARMS

ONE SYSTEM

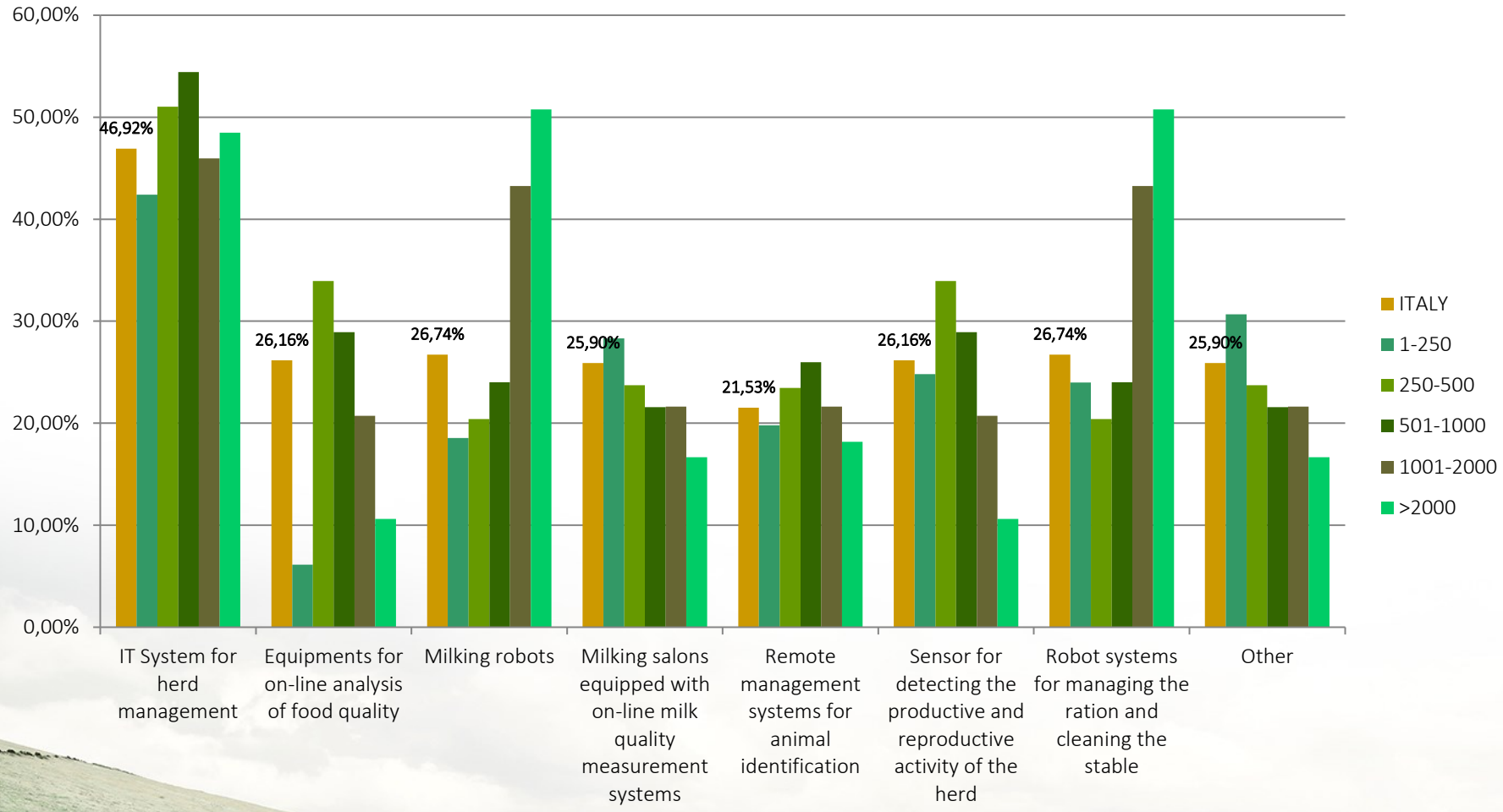
68%

TWO SYSTEMS

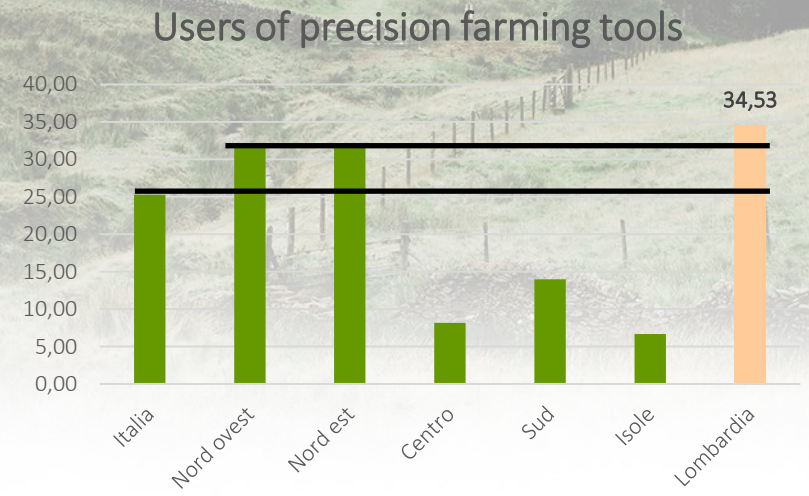
35%

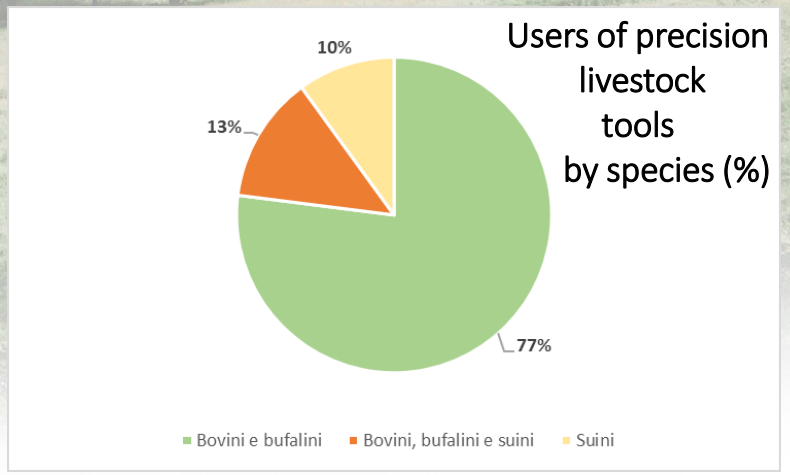
THREE OR MORE SYSTEMS

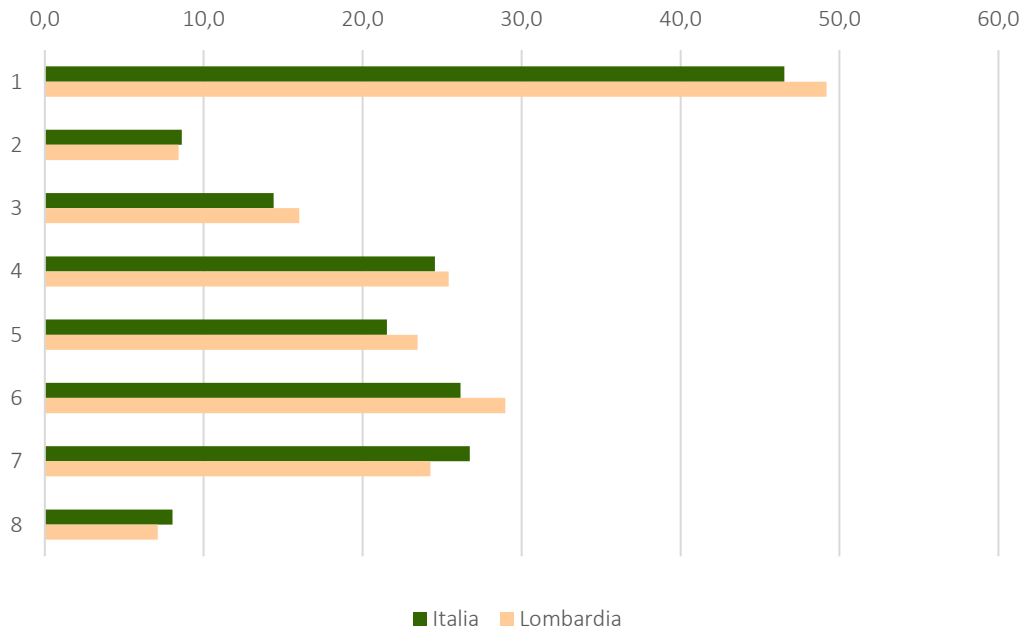
USE OF PRECISION FARMING TOOLS (Farm size in n°of heads)



Lombardy


Users of precision farming tools
40,00
35,00
30,00
25,00
20,00
15,00
10,00
5,00
0,00
34,53
Italia
Nord ovest
Nord est
Centro
Sud
Isole
Lombardia


Users of precision livestock tools by species (%)
10%
13%
77%
Bovini e bufalini
Bovini, bufalini e suini
Suini


0,0
10,0
20,0
30,0
40,0
50,0
60,0
1
2
3
4
5
6
7
8
Italia
Lombardia

CONCLUSION AND FUTURE STEPS

The use of digital technology in agriculture and rural areas in Italy is, on average, low.

In many cases is still missing, for example a simple fast broadband connectivity. Moreover, factors such as the lack of information about existing technologies, insufficient digital skills related to the average age of Italian farmers and the limited availability of reliable cost/benefit analyses of the new technologies may limit farmers investments in digitalization and precision farming.

The risk of a 'digital divide' is still real.

Restrictions on access imposed by data providers, ownership of data should be respected?

In the December edition, following the DESI (Digital Economy and Society Index), the survey has been revised in order to investigate the state of digitalization (use of a broadband, website, cloud services) in the livestock farms. All the categories of animals are included. The tecnique is double CAWI-CATI.

THANK YOU